"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

serving as an anode and the inside electrode (carrying no current load), and between the anode and the graphite crucible serving as a cathode. The experiments showed that the variation of the electric conductivity of the system anode-electrolyte-dissolved metal differs from that of the system without metal if the current density at the anode is increased. In both cases, however, deviations from the monotonous course of the curves were found at current densities of 0.1, 0.3, and 0.9 amps/cm^2. In the range of 0 to 1.1 amps/cm^2 the electric conductivity drops by 80 %. When the conductivity was measured between the anode and the cathode, a similar relationship was found, with only the difference that the conductivity decreases much more rapidly if the current is switched on. The graphite electrodes were replaced by metal electrodes (of heat resisting steel) as to solve the problem whether the material of the electrodes influences the nature of the conductivity versus current density function, and whether the rules found to govern the behaviour of graphite electrodes are specific only to them. The results of the investigation show that in this case the conductivity varies as the current

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density. If a metal is introduced into a system with a metal electrode, this relationship becomes reciprocal. The experiments showed that the complicated nature of the course taken by the conductivity versus current density function in the system electrode-electrolyte and electrode- electrolyte- dissolved metal is determined by the processes occurring in the carbon anode. A comparison of the results of the present paper with those from earlier papers (Refs 3-7) lead to the conclusion, that the pronounced variations of conductivity at current densities of 0.1, 0.3, and 0.9 amps/cm^2 are connected with the interaction of carbon and oxygen. There are 3 figures and 8 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnical Institute)

SUBMITTED: April 14, 1958

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

KUZNETSOV, S.I.; VAZHENIN, S.F.

Material balance of sulfur in the production of alumina by the Bayer process. Trudy Ural.politekh.inst. no.58:71-72 '57.
(Alumina) (Sulfur) (MIRA 11:4)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

ANTIPIN, L.N.; VAZHENIN, S.F.; TYURIN, N.G.

Critical current density in electrolyte aluminum bath as dependent on alumina content. Trudy Ural.politekh.inst. no.58:177-179 '57.
(Alumina) (Aluminum--Electrometallurgy) (MIRA 11:4)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

ANTIPIN, L.N.; TREGUBOV, A.T.; VAZHENIN, S.F.

Relation of the amount of "coal crust" in molten alumina-cryolite to the anode current density. Izv. vys. uchab. zav.; tsvet. met. no.1:107-115 '58. (MIRA 11:6)

1. Ural'skiy politekhnicheskiy institut. Kafedra metallurgii legkikh metallov.
(Aluminum—Electrometallurgy)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

ANTIPIN, L.N.; VAZHENIN, S.F.; SHCHERBAKOV, V.K.

Electric conductivity of the system graphite electrode - cryolite melt - dissolved aluminum. Nauch. dokl. vys. shkoly; met. no.1:11-15 '58. (MIRA 11:9)

1. Ural'skiy politekhnicheskiy institut.
(Aluminum--Electrometallurgy) (Electric conductivity)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

SOV/137-58-10-20703

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 52 (USSR)

AUTHORS: Antipin, L.N., Tregubov, A.T., Vazhenin, S.F.

TITLE: Relation of the Quantity of "Carbon Foam" in a Cryolite-alumina Melt to Current Density at the Anode (Zavisimost' kolichestva "ugol'noy peny" v kriolit-glinozemnom rasplave ot anodnoy plotnosti toka)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Tsvetn. metallurgiya, 1958, Nr 1, pp 107-115

ABSTRACT: When the anode cd in the baths is increased, the change in the nature of the process at the anode results in a change in the amount of carbon fines coming down at the anode to form "carbon foam". Investigations conducted with laboratory equipment (in a cylindrical graphite crucible) show that foam formation starts at cd=0.3 amps/cm^2 and increases sharply at cd=0.9 amps/cm^2. The presence of dissolved metal in the electrolyte reduces anode losses and changes the nature of the relationship. Anode losses for anode pastes of various compositions are investigated. They depend upon the composition of the paste and the conditions used in baking the carboniferous

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Relation of the Quantity of "Carbon Foam" (cont.)

material. There are cd (0.6-1.0 amps/cm^2) at which a sharp rise in the amount of foam is observed. This requires that experiments be performed in an industrial cell to determine the cd at which foam formation will be smallest.

B.L.

1. Carbon--Foaming 2. Cryolite--Properties 3. Aluminum oxide--Properties
4. Slags--Electrical effects

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

AUTHORS: Antipin, L.N. and Vazhenin, S.F. SOV/136-58-12-12/22

TITLE: Influence of CaF_2 and MgF_2 on the Electrical Conductivity of the System "Carbon Electrode - Cryolite Melt - Dissolved Aluminium" (Vliyaniye CaF_2 i MgF_2 na elektroprovodnost' sistemy "uglerodistyy elektrod - kriolitovyy rasplav - rastvorennyy alyuminiy")

PERIODICAL: Tsvetnyye Metally, 1958, Nr 12, pp 56 - 60 (USSR)

ABSTRACT: The authors draw attention to the discrepancies in the literature on the effects of fluorides on the electrical conductivity of aluminium electrolytes, some authors (Refs 1, 2) stating that the effect is positive, others (Refs 4, 5) that it is negative. They outline the results of their study in which B.M. Khamzin and Ya.A. Sal'nikov participated, of the influence of CaF_2 amd MgF_2 on the conductivity of the system: carbon electrode - cryolite melt - dissolved aluminium, or without the last component. As they had previously indicated (Refs 6, 7), results with such systems are more applicable to practice than those obtained with the "pure" electrolyte. A Kohlrausch bridge with a type ZG-10 sonic-frequency was used, the null point

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

Influence of CaF_2 and MgF_2 on the Electrical Conductivity of the System "Carbon Electrode - Cryolite Melt - Dissolved Aluminium"

being found with the aid of a piezo-electric telephone. The measuring device was made of graphite. The experiments were carried out in a Silit furnace with automatic temperature regulation with an MRSHchPR-54 millivoltmeter and a chromel-alumel thermocouple. It was found that for the system "graphite electrode - cryolite melt" the addition of 7-9% CaF_2 increases the conductivity but further additions reduce it (line 1 in Figure 1); with the system including dissolved aluminium it does not change up to a certain concentration of CaF_2 (line 2 in Figure 1), which depends on the cryolite ratio and above which the conductivity decreases. Addition of MgF_2 to the aluminium-less system for cryolite ratios below 2.5 reduce the conductivity linearly; for higher ratios the conductivity passes through a minimum at 5-6% MgF_2. With aluminium

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

Influence of CaF_2 and MgF_2 on the Electrical Conductivity of the System "Carbon Electrode - Cryolite Melt - Dissolved Aluminium"

there is a linear decrease in conductivity with increasing MgF_2 contents for all cryolite ratios.

There are 3 figures and 9 references, 7 of which are Soviet, 1 English and 1 Scandinavian.

Card 3/3

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

ANTIPIN, L.N.; VAZHENIN, S.F.; SINYAGOV, A.A.

Effect of the character of electrolytic oxidation of carbon anodes in molten alumina-cryolite on their electrical conductivity. Izv.vys. ucheb.zav.; tsvet.met.no.5:62-68 '58. (MIRA 12:1)

1. Ural'skiy politekhnicheskiy institut. Kafedra metallurgii legkikh metallov.
(Oxidation, Electrolytic) (Electrodes, Carbon)
(Electric conductivity)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

ANTIPIN, L.N.; VAZHENIN, S.F.; SAL'NIKOV, Ya.A.

Effect of aluminum on wetting of graphite by molten alumina-cryolite mixtures. Zhur. prikl. khim. 31 no.7:1103-1105 Jl '58. (MIRA 11:9)
(Graphite) (Alumina) (Cryolite)

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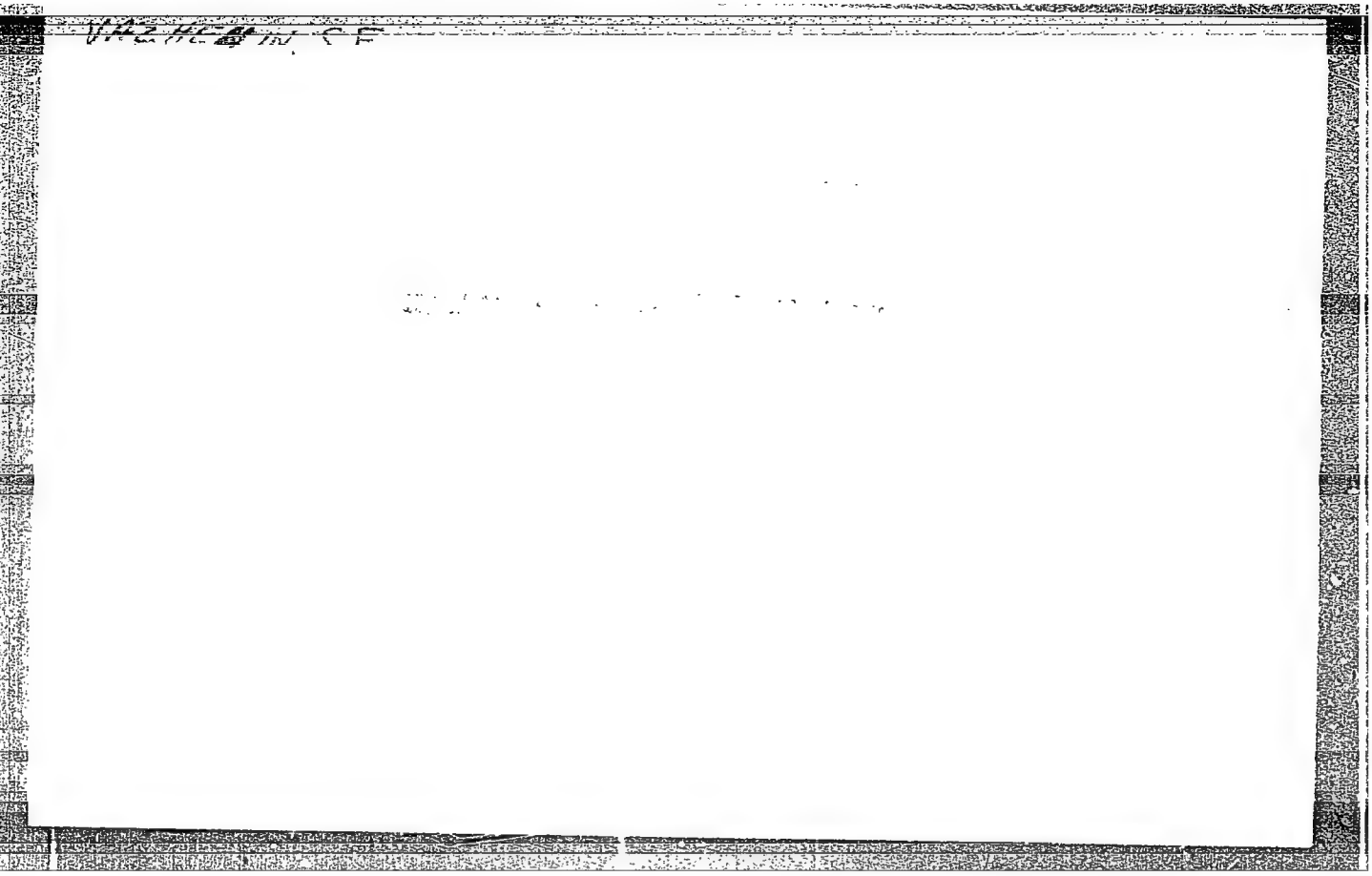

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

KUZNETSOV, S.I.; VAZHENIN, S.F.

Displacing sulfur to the solution in leaching bauxites by the Bayer process. TSvet. met. 30 no.4:49-51 Ap '57. (MIRA 10:6)

1. Ural'skiy politekhnicheskiy institut.
(Bauxite) (Sulfur)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

KUZNETSOV, S.I.; ANTIPIN, L.N.; VAZHENIN, S.F.

Characteristics of changes in certain properties of aluminate solutions in the process of decomposition. Zhur.prikl.khim. 30 no.3:357-361 Mr '57. (MLRA 10:5)
(Aluminates)

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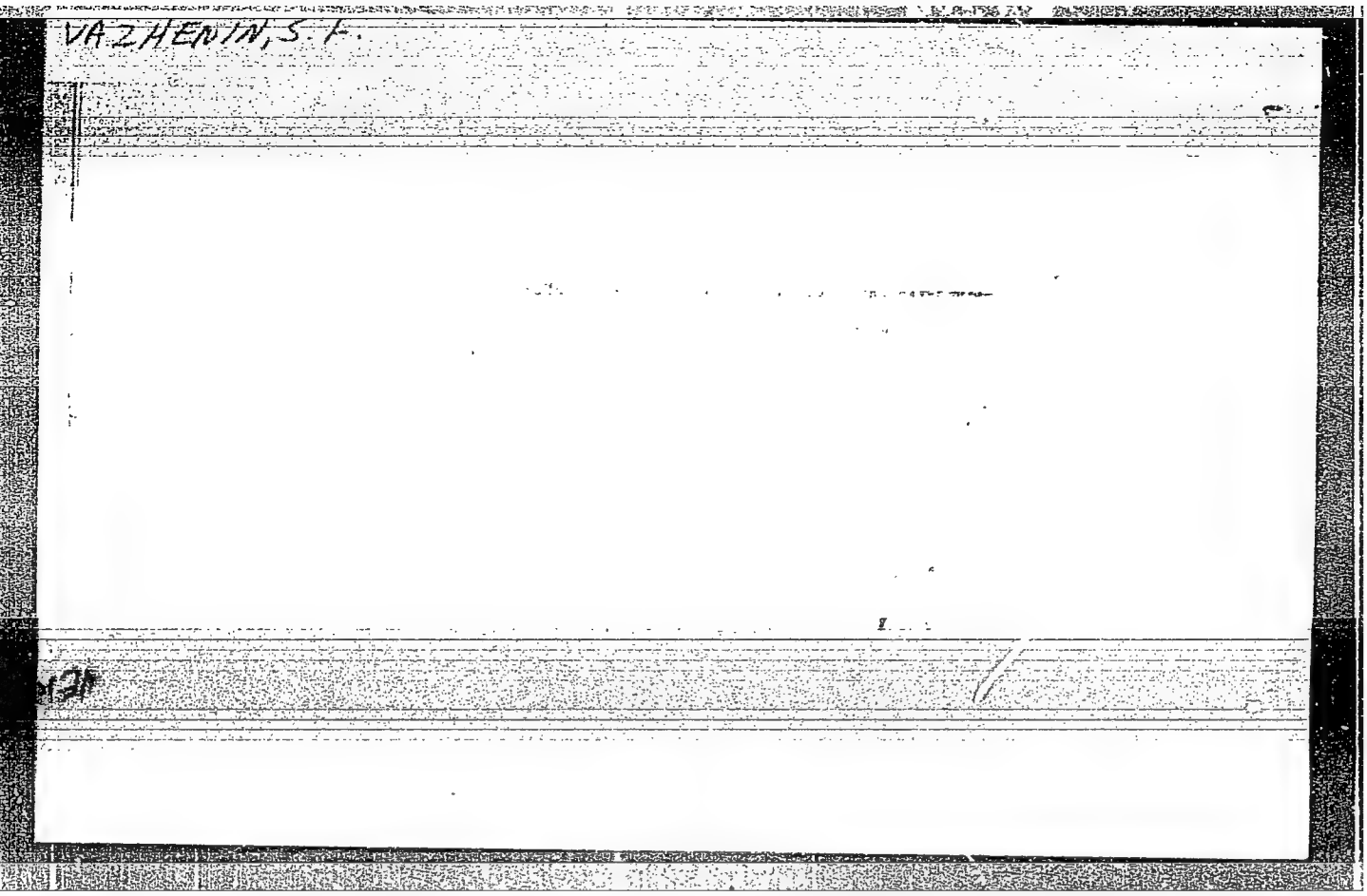

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

112-1-1261

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 1, p.195 (USSR)

AUTHOR: Vazhenin, V.F.

TITLE: Magnetic Control Methods (Magnitnyye metody kontrolya)

PERODICAL: Sbornik: Opyt povysheniya proizvoditel'nosti truda, Chelyabinsk, Knigoizdat, 1956, pp.273-278.

ABSTRACT: In the laboratory of the Chelyabinsk Tractor Plant (ChTZ) investigations were made of the dependence of magnetic properties from the hardness of the leading brands of steel: 45, 50Г , 18ХНВА, ШХ15, 45Х, 38ХСА and 55С2. Graphs are presented. A simple device for sorting components according to hardness and structure is described. Curves of relation of permeability from hardness coincide in principle with curves of coercitivity. Directions are given as to the application of magnetic control instruments.

Card 1/1

V.F.R.

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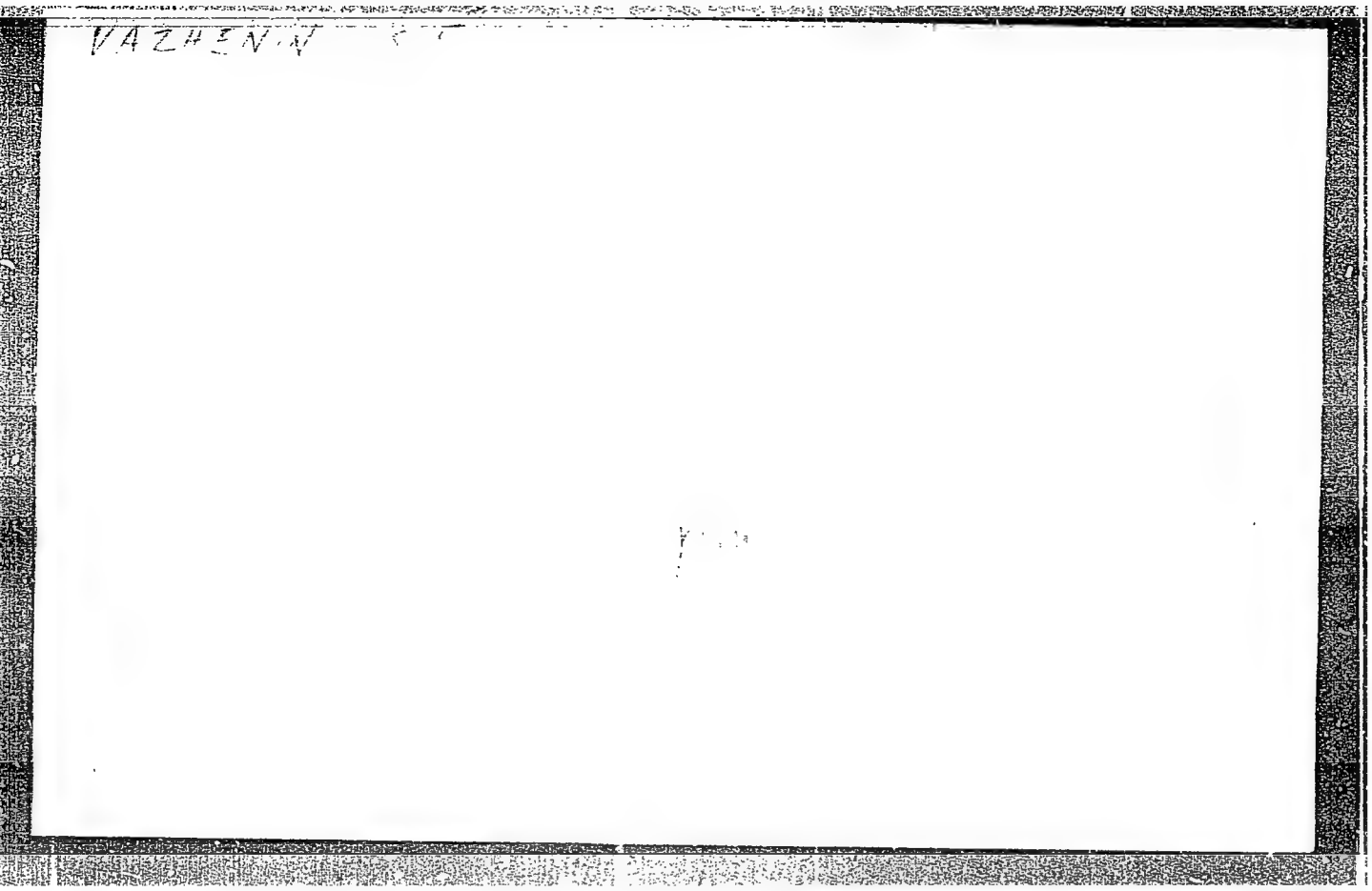

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

Vazhenin, S.F.

AUTHOR: Kuznetsov, S.I. and Vazhenin, S.F. 136-4-10/23

TITLE: Extraction of sulphur into the solution during the leaching of bauxites by Bayer's method. (Izvlechenie sery v rastvor pri vyshchelachivanii boksitov po sposobu Bayera.)

PERIODICAL: "Tsvetnye Metally" (Non-ferrous Metals) 1957, No.4, pp. 49 - 51 (U.S.S.R.)

ABSTRACT: The accumulation of sulphur in the aluminate solution in the leaching of bauxites leads to increased irreversible losses of alkali and can have a deleterious effect on the decomposition and other aspects of the process. In this article an account is given of the study of the kinetics of sulphur extraction into the solution during leaching of bauxite by Bayer's method and the influence on it of various factors. The leaching was carried out in 80 ml laboratory autoclaves, the aluminate solutions containing from 120-137 g/litre Al_2O_3 and from 326-335 g/litre of Na_2O_{total}. In all experiments the leaching was carried out on diasporic bauxites containing 50.0 - 55.3% Al_2O_3 and 0.25 - 1.9% S, the bauxites being ground to 75% through 270mesh. Lime was added to activate the leaching, and all experiments were carried out at 200 - 205 °C. The extraction of sulphur is plotted against the duration of

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

Extraction of sulphur into the solution during the leaching of bauxites by Bayer's method. (Cont.) 136-4-10/23

leaching for various conditions and against the silica content in the bauxite. The experiments were carried out under conditions rather similar to those prevailing in practice and the results are considered to give a useful indication of the influence of the sulphur content in the bauxite and in the alumina solution taking part in the leaching on the degree of extraction of sulphur. As regards the influence of silica it is suggested that the sulphide sulphur extracted from the bauxite reacts chemically with the silica to form compounds only slightly soluble under the conditions of the leaching process. There are 2 figures.

Card 2/2 There are 3 references, all Slavic.

ASSOCIATION: Ural Polytechnical Institute. (Uralskiy Politekhnicheskiy Institut).

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APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

ANTIPIN, Lev Nikolayevich; VAZHENIN, Sergey Filippovich; KAL'CHENKO, V.S., retsenzent; SYRCHINA, M.M.,; TURKINA, Ye.D., tekhn. red.

[Economy of electric power consumption with an increase in aluminum production] Ekonomiia elektroenergii pri intensifikatsii proizvodstva aliuminiia. Sverdlovsk, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii. Sverdlovskoe otd-nie, 1961. 34 p. (MIRA 14:10)
(Aluminum--Electrometallurgy) (Electric power)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

KUZNETSOV, S.I.; VAZHENIN, S.F.

Effect of sulfur compounds on the dispersion formation of aluminum hydroxide in the process of decomposition of aluminate solutions. Zhur. prikl.khim. 30 no.2:297-299 F '57. (MLRA 10:5)
(Aluminum hydroxide)

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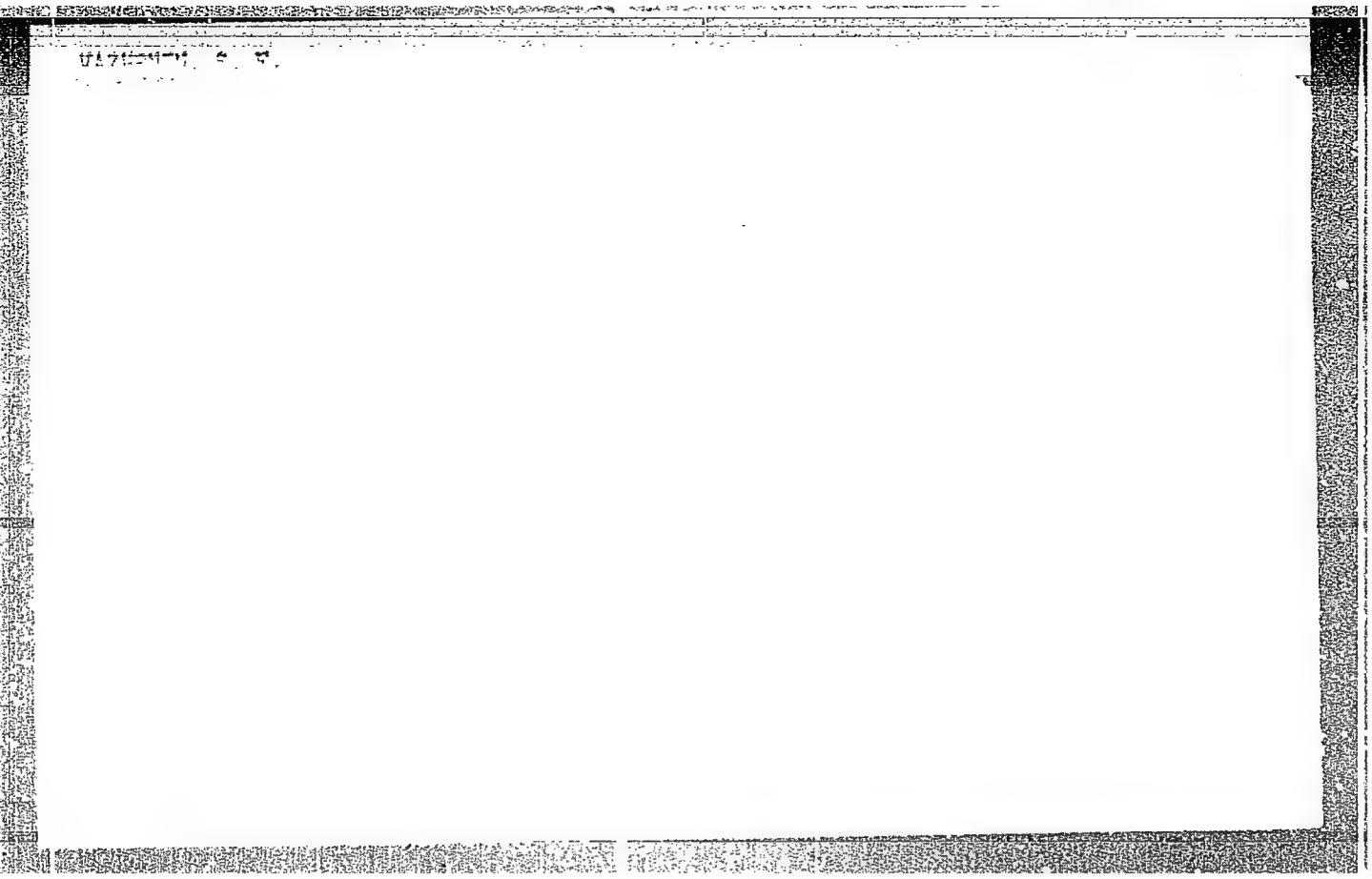

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

AUTHORS: Antipin, L.N., Vazhenin, S.F. and Sinyagov, A.A. SOV/149-58-5-7/18

TITLE: The Nature of Electrolytic Oxidation of the Carbon Anode in Cryolite/Alumina Melts and Its Effect on the Electrical Conductivity of the System (Vliyaniye kharaktera elektroliticheskogo okisleniya uglerodistogo anoda v kriolito-glinozemnykh rasplavakh na yego elektroprovodnost')

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, 1958, Nr 5, pp 62 - 68 (USSR)

ABSTRACT: The object of the present investigations was to study the variation of the electrical conductivity of the systems carbon anode/cryolite + alumina, and carbon anode/cryolite + alumina/metallic aluminium, which were polarised by a DC current so as to obtain data on the optimum current density in electrolytic extraction of aluminium. The conductivity measurements were carried out with the aid of a modified version of a resistance bridge described by Abramov and Vetyukov (Ref 10) which made it possible to reduce to minimum the effects of the inductive and self-capacitance coupling on the experimental results. A sketch of the apparatus used and the circuit diagram

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

The Nature of Electrolytic Oxidation of the Carbon Anode in Cryolite-Alumina Melts and Its Effect on the Electrical Conductivity of the System

are reproduced in Figure 1. The experimental conditions were similar to those employed by the authors in their earlier investigations (Refs 8, 9). A graphite crucible constituted the cathode (Detail 7, Figure 1) and in addition to the current-carrying, graphite anode (Detail 6, Figure 1) there was an inner, concentric with it, unloaded, graphite electrode (Detail 5, Figure 1). The experiments consisted of measuring the conductivity between (a) the anode and the inner electrode and, (b) the anode and the cathode under various conditions of the current density, electrolyte composition (the molecular NaF/AlF_3 ratio), with and without the presence of metallic aluminium. Two measurements were made at each value of the current density: one with the DC current on and one immediately after the current was switched off. (Before switching off the current, the anode was polarised for 3 minutes.) Since the shape of the curve showing the relationship between the conductivity of the system and the current density was not affected by the NaF/AlF_3 ratio

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of the electrolyte, the results reproduced in the present report are based on the mean values of the data obtained for various experimental compositions of the electrolyte. The variation of the electrical conductivity of the system graphite electrode/cryolite with the current density is illustrated in Figure 2 (graph 1 - current on, graph 2 - current off). In Figure 4, the experimental results for the systems graphite anode/cryolite/metallic aluminium and graphite anode/cryolite (graphs 1 and 2 respectively) are compared with those calculated from the data obtained by Antipin in the course of another investigation (graph 3). It is shown that in the presence of metallic aluminium the variation of conductivity of the system with the current density is markedly altered. The results of the measurements in the system anode/electrolyte/metallic aluminium are reproduced in Figure 4 (graph 1 - current on, graph 2 - current off). Within the current density range

 0 - 0.3 A/cm^2 the conductivity of the system decreased

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

The Nature of Electrolytic Oxidation of the Carbon Anode in Cryolite-Alumina Melts and Its Effect on the Electrical Conductivity of the System

slowly. At 0.3 A/cm^2 there was a sudden drop in conductivity which then continued to decrease (at a slower rate) with increasing current density. Although the variation of the conductivity of the system graphite electrode/electrolyte/dissolved aluminium was different from that observed in the system graphite electrode/electrolyte, in both cases the relationship conductivity/current density deviated from monotonic at 0.1, 0.3 and 0.9 A/cm^2. For any current density the conductivity was higher when no current was passing through the system. The total decrease of conductivity within the 0 - 1.1 A/cm^2 current-density range amounted to 80%. Conductivity measured between the anode and the cathode varied in the same manner, except that with the current on, it decreased more rapidly with the increasing current density.
To check whether the studied relationship was affected by the anode material, the variation of conductivity of the systems heat-resistant steel/electrolyte and steel/electrolyte/metallic aluminium was also determined, the

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

The Nature of Electrolytic Oxidation of the Carbon Anode in Cryolite-Alumina Melts and Its Effect on the Electrical Conductivity of the System

results being reproduced in Figure 5. In both cases, linear variation of conductivity was observed. In the steel/electrolyte system it increased with the increasing current density, while in the presence of metallic aluminium it decreased. This proved that the variation of conductivity observed in the systems incorporating graphite anodes was confined to the anodes and that - as had been postulated before (Refs 1, 7, 11) - the changes of conductivity occurring at the characteristic values of the current density (0.1, 0.3 and 0.9 A/cm^2) are caused by the action of anodic oxygen (the interesting fact is that presence of oxygen in the lattice of the graphite anode results in an increase in conductivity in the 0 - 0.3 A/cm^2 current density range). The minimum on the conductivity curve at 0.9 A/cm^2 is attributed to a high concentration of the carbon particles in the

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

The Nature of Electrolytic Oxidation of the Carbon Anode in Cryolite-Alumina Melts and Its Effect on the Electrical Conductivity of the System

immediate neighbourhood of the anode; at higher current densities these particles become distributed uniformly throughout the electrolyte and the conductivity of the system increases. It is postulated that the change in the conductivity/current density relationship in the presence of metallic aluminium is associated with the interaction between lower valency cations (Al^+ and Na_2^+) with the oxygen chemisorbed on the carbon surface. There are 5 figures and 12 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut. Kafedra metallurgii legkikh metallov (Urals Polytechnical Institute. Chair of Metallurgy of Light Metals)

SUBMITTED: April 28, 1958

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

ANTIPIN, L.N.; KHOLMANSKIKH, Yu.B.; VAZHENIN, S.F.

Polarograph for automatically recording polarization curves in molten salts [with English summary in insert]. Zhur.fiz.khim. 30 no.7:1672-1675 Jl '56. (MLRA 9:11)

1.Ural'skiy politekhnicheskiy institut imeni S.M.Kirova, Sverdlovsk.

(Salts) (Polarograph)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

ANTIPIN, L.N.; VAZHENIN, S.F.

Effect of metal dissolved in an electrolyte on the magnitude of the critical current density. Trudy Ural. politekh. inst. no.98: 116-120 '60. (MIRA 14:3)

(Aluminum—Electrometallurgy)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

FRANTSEVICH, I.N.; GNESIN, G.G.; SEMENOV, Yu.N.; BORODULIN, P.Ya.; ANTIPIN, L.N.; VAZHENIN, S.F.; MAKSIMENKO, V.M.; MASHNITSKIY, A.A.

Lining material for aluminum electrolytic cells. TSvet. met. 38 no.6:49-54 Je '65. (MIRA 18:10)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

IVANOV, I.A., kand.tekhn.nauk; VAZHENINA, L.M., inzh.

Determining the grain-size distribution of ashes from electric power plants using a floating device. Stroi. mat. 8 no.12: 33-34 D '62. (MIRA 16:1)

(Ash (Technology))

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHENINA, Z. P.

Category : USSR/Radiophysics - Generation and conversion of radio-frequency oscillations I-4

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1829

Author : Levin, G.A., Vazhenina, Z.P.
Title : Use of Reactance Tube To Control the Frequency of Vacuum-Tube Oscillator

Orig Pub : Elektrosvyaz', 1956, No 8, 3-17

Abstract : Discussion of the problem of the limiting frequency deviation in a vacuum-tube oscillator, obtainable with the aid of a reactance tube. The connection between the frequency deviation and the depth of the parasitic amplitude modulation is established. In one version of a circuit for connecting the reactance tube to the oscillator tank circuit it is possible to reduce considerably the parasitic amplitude modulation, compared with the usual circuit, over a wide range of oscillator frequency variation. Calculations made with the derived equations are compared with experimental data.

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9.4200

78151
SOV/108-15-3-14/17

AUTHORS: Vazhenina, Z. P., and Suslov, N. A.

TITLE: Calculation of Impulse Duration of a Phantastron

PERIODICAL: Radiotekhnika, 1960, Vol 15, Nr 3, pp 75-77 (USSR)

ABSTRACT: The purpose of the paper is to determine analytical relationships between the control voltage E_o and the duration of the output impulse τ_u in the phantastron circuit given in Fig. 1.

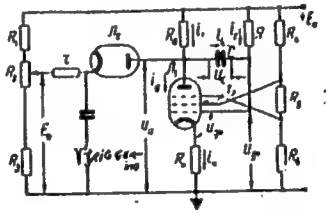

Fig. 1.

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Calculation of Impulse Duration of a Phantastron

78151
SOV/108-15-3-14/17

The voltage u_a is given by

$$u_a = [E_0 - \Delta U_{a1} + (\kappa' - 1) E_a + \kappa' E_{g0}] e^{-\frac{t}{\tau_e}} - (\kappa' - 1) E_a - \kappa' E_{g0}, \quad (11)$$

where $\kappa' = \frac{R_a S}{1 + (S + S_e) R_n}$ and $\tau_e = RC \left[1 + \kappa' + \frac{R_a}{R} \right]$.

ΔU_{a1} is voltage jump at the anode at the start of operation; S and S_e are steepnesses of anode and screen currents, respectively; and E_{go} is the cutoff voltage of the first grid. Figure 2 gives the voltage shape on the anode of the phantastron.

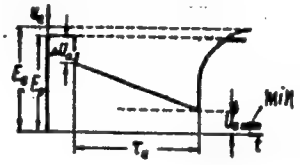

Fig. 2.

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Calculation of Impulse Duration of a Phantastron

78151
SOV/108-15-3-14/17

When $\tau_u \ll \tau_e$, τ_u becomes

$$\tau_u = \tau_e \frac{E_a - \Delta U_{a1} - U_{a\,min}}{E_a - \Delta U_{a1} + (\kappa' - 1) E_a + \kappa' E_{g0}} . \quad (13)$$

which can be further simplified into

$$\tau_u \approx RC \frac{E_a - \Delta U_{a1} - U_{a\,min}}{E_a} . \quad (14)$$

when only the order of magnitude of the impulse duration is looked for. In Eqs. (13) and (14), $U_{a\,min}$ is given by

$$U_{a\,min} = E_a - i_{1\,max} R_a .$$

The voltage jump at the anode at the start of operation ΔU_{a1} may be calculated from

$$\Delta U_{a1} = \frac{\kappa' R (E_{g0} + U_{kn}) + R E_a + R_a U_{kn} - (R + R_a) E_a}{(\kappa' + 1) R + R_a} . \quad (19)$$

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where U_{kn} is cathode voltage in the state of rest. The values of $i_{l\ max}$ may be found from tube reference sheets. There are 2 figures; and 3 Soviet references.

SUBMITTED: June 15, 1959

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

L 01992-67 EWT(1)

ACC NR: AM6023680 Monograph UR/ 32. B+/

Vazhenina, Zoya Pavlovna

Phantastrons; theory, planning and design (Fantastronnyye generatory; teoriya, proyektirovaniye, raschet) Moscow, Izd-vo "Sovetskoye radio", 65. 0174 p. illus., biblio. 12,800 copies printed.

TOPIC TAGS: phantastron, transistorized generator

PURPOSE AND COVERAGE: A description and analysis of phantastrons is given, the basic design relations characterizing the operation of pulsed generators of the phantastron type are presented, and the principles of the design of phantastrons of electric vacuum and semiconductor devices are discussed. The material of the book is illustrated with numerical examples. Two appendices present families of static characteristics of tubes and transistors used in phantastrons. The book is intended for students of radio engineering schools and also for a wide range of specialists in the field of radio electronics. The author thanks professor Gets Aronovich Levin and docent candidate of technical sciences Sergey Ivanovich Kaplin for reading the manuscript and making valuable comments. The author also thanks docent candidate of technical sciences Nikolay Aleksandrovich Suslov for taking part in the composition of the book layout.

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L 01992-67
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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHENKOV, D.D. (Barvikha Moskovskoy oblasti).

Relationship between mathematics and physics. Mat.v shkole no.1:37-39 Ja-F '57. (MLRA 10:2)
(Mathematics--Study and teaching)
(Physics--Study and teaching)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

MAYOROV, Ya., general-mayor; VAZHENTSEV, I., polkovnik; GAVRILENKO, I., polkovnik; GOL'DMAN, G., polkovnik; MEL'NIKOV, N., polkovnik

Creatively study scientific communism. Komm. Vooruzh. Sil 46 no.19:58-61 O '65. (MIRA 18:12)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHERKIN, N.A.

The N-1 mine turbine pump. Biul. tekh.-ekon. inform. no.1:8 '57.
(Mine pumps) (MIRA 11:4)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHEV, A.P.

Resistance of the house fly (Musca domestica vicina) to the DDT preparation in Ashkhabad. Vop.kraev.paraz.Turk.SSR 3:239-242 '62. (MIRA 16:4)

1. Institut epidemiologii i gigiyeny, Ashkhabad.
(ASHKHABAD--FLIES--EXTERMINATION)
(DDT (INSECTICIDE))

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHEV, P.F., inzh.

Modernization of the EDT-200 electric traction motor. Elek.i tepl.tiaga 3 no.12:26-28 D '59. (MIRA 13:4)

1. Starshiy inspektor Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey soobshcheniya.
(Electric railway motors)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHEV, P.F., inzh.

Modernization of the main generator of the TE3 diesel locomotive. Elek. i tepl. tiaga 4 no.5:18-20 My '60. (MIRA 13:7)

1. Starshiy inspektor Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey soobshcheniya.
(Diesel locomotives). (Electric generators)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHEYEVSKAYA, A.A.; OGORODOV, N.V.

Areal volcanism of the Central Range of Kamchatka. Biul. vulk. sta. no.36:73-83 '64. (MIRA 17:9)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

LISITSYN, Fedor Pavlovich; VAZHEYKO, V.I., red.

[Sprinkler irrigation of farm crops; brief description of the design and use of sprinkling machines] Dozhdevanie sel'skokhoziaistvennykh kul'tur; kratkoe opisanie konstruktsii i primeneniia dozhdeval'nykh mashin. Frunze, MSKh Kirgizskoi SSSR, 1961. 38 p. (MIRA 17:10)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHNIN, P., [illegible]; ZEMLYANSKIY, D., polkovnik

Eight years without flight accidents. Av. i kosm. 48 no.11:6-18 N '65. (MIRA 18:10)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F., polkovnik

On the spaceship "Vostok." Av. i kosm. 46 no.5:63-70 My '64.
(MIRA 17:7)

1. Spetsial'nyy korrespondent zhurnala "Aviatsiya i Kosmonavtika".

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F., polkovnik

Results bring joy. Av. i Kosm. 47 no.1:19-23 Ja '65
(MIRA 18:1)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F., polkovnik

In the thermal environment simulation chamber. Av. i kosm. 47 (ekstr. vyp.):56-58 O '64. (MIRA 18:3)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

AID P - 3299

Subject : USSR/Aeronautics

Card 1/1 Pub. 135 - 5/20

Author : Vazhin, F., Guards Maj.

Title : Commander of a leading squadron

Periodical : Vest. vozd. flota, 11, 23-26, N 1955

Abstract : The author uses the example of the squadron of Commander Surovikin, V. I., to describe the activities of a well organized and trained unit. The names of sub-unit commanders are given. Photo.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

AID P - 3682

Subject : USSR/Aeronautics

Card 1/1 Pub. 135 - 9/22

Author : Vazhin, F. A., Guards Maj.

Title : The master of exact bombing

Periodical : Vest. vozd. flota, 1, 36-39, Ja 1956

Abstract : The author describes bombing methods of Zaytsev, Maj., known as an outstanding bombing specialist and aircraft navigator. He gives also some information about training in bombing and the preparation of aircraft for bombing missions.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F.A.

Subject : USSR/Aeronautics - air combat AID P - 4569

Card 1/1 Pub. 135 - 4/23

Authors : Baryshnikov, N. I., Maj. and F. A. Vazhin, Maj.

Title : Air combat of a flight of frontline bombers

Periodical : Vest. vozd. flota, 2, 21-29, F 1956

Abstract : Various methods of repelling the attack of fighters by well organized fire control, by changing the flight speed, altitude and direction are discussed by the authors. Five sketches. The article is of informative value.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F.A.

AID P - 4746

Subject : USSR/Aeronautics - tactics

Card 1/1 Pub. 135 - 4/31

Author : Vazhin, F. A., Guards Maj.

Title : Attacking the bomber

Periodical : Vest. vozd. flota, 8, 15-18, Ag 1956

Abstract : Detailed description of how various attacks by the two-ship element of fighters against a bomber were carried out during air combat exercises. The article deserves attention.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F., gvardii mayor.

On a long flight. Sov.voin 38 no.19:14-15 O '56. (MLRA 10:1)
(Sen'ko, V.V.)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F.A., gvardii mayor.

Attack on a bomber. Vest.Vokd.Fl. 39 no.8:15-18 Ag '56.
(Air warfare) (MLRA 10:1)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

86-10-38/44

AUTHOR: Vazhin, F. A., Lt. Col.

TITLE: In Search of Something New (V poiskakh novogo)

PERIODICAL: Vestnik Vozdushnogo Flota, Nr 10, 1957, pp. 61 - 65 (USSR)

ABSTRACT: In this article the author describes an attack of a fighter two-ship element against the bomber flight in the stratosphere, performed in echelon formation, and the procedure of development of a new combat formation of a fighter two-ship element and flight for the attack against the enemy bombers flying at high speeds and altitudes. A new combat formation of a fighter two-ship element and flight, the so-called "arrow formation" (strela samoletov), was developed by Fighter Pilots A.G. Bobrov and K.G. Pavlov. This combat formation permits the fighter pilots to concentrate more attention on the target search and circumspection. The article contains no technical data.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F.A., podpolkovnik.

At the precise appointed time. Vest.Vozd.Fl. 40 no.7:19-24 Jl '57. (MIRA 10:11)
(Bombing, Aerial)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

YAKUSHIN, M.N., general-mayor aviatsii; VAZHIN , F.A., podpolkovnik; GAVRILOV, N.N., podpolkovnik, red.; MYASNIKOVA, T.F., tekhn. red.

[Aerial combat between fighter pairs and flights] Vozdushnyi boi pary i zvena istrebitelei. Moskva, Voen. izd-vo M-va obor. SSSR, 1958. 126 p. (MIRA 11:9)

(Air warfare)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F.A.

86-2-38/45

AUTHOR: Vazhin, F.A., LtCol

TITLE: Boldness (Derzaniye)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 2, pp. 67-74 (USSR)

ABSTRACT: This is a story about how LtCol P.P. Panchenko succeeded in realizing his daring idea of bomber escort by fighters at night under difficult weather conditions. One photo.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

SOV/86-58-11-9/37

AUTHOR: Vazhin, F.A., Lt Col.

TITLE: Lessons Learned From a Tactical-Flight Exercise (Uroki odnogo letno-takticheskogo ucheniya)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 11, pp 20-25 (USSR)

ABSTRACT: In this article the author makes a critical examination of a tactical-flight exercise that was carried out in a bomber unit. The author states that tactical-flight exercises are the highest form of combat training for flying personnel of subunits. After a detailed analysis of many shortcomings, the the author arrives at the conclusion that good results can be expected only when the exercises are carried out under conditions as close as possible to actual combat conditions and when due consideration is paid to the importance of the tactical element.

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VAZHIN, F. A.

1(4) PHASE I BOOK EXPLOITATION SOV/1190

Vestnik vozdushnogo flota

Vozdushnyy boy pary i zvena istrebiteley (Aerial Combat of Fighter Planes in Pairs and Flights) Moscow, Oborongiz, 1958. 126 p. No. of copies printed not given.

Compilers: Yakushin, M.N., Maj Gen of Aviation, and Vazhin, F.A., Lt Col; Ed.: Gavrilov, N.N., Lt Col; Tech. Ed.: Myasnikova, T.F.

PURPOSE: The book is intended for fighter pilots of aviation units and aviation schools, and may also prove useful to reserve pilots, aeroclub flying personnel, and the general reader.

COVERAGE: The articles selected by the editors for this book were previously published in the periodical Vestnik vozdushnogo flota, 1955-1957. They reflect the personal views of the respective authors on practical methods of conducting aerial combats in pair and flight formations of fighter planes

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Aerial Combat of Fighter Planes (Cont.)

at all altitudes up to service ceiling under ordinary and adverse weather conditions, by day and by night. The articles analyze maneuvers of pair and flight formations of fighter planes in searching and approaching targets, and they deal with the attack itself and final withdrawal. Tactics of attack at various speeds, on approaching courses, and methods of intercepting the enemy with the aid of radiotechnical location and sighting equipment are described. No personalities are mentioned. There are no bibliographic references.

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Pokryshkin, A.I., Three Times Hero of the Soviet Union, Guards Lt Gen of Aviation. Capabilities of Fighters in Aerial Combat 5

Trubachev, V.A., Col, Candidate of Military Sciences. Condi-

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F.A., podpolkovnik

Executing our military duty... Vest.Vozd.Fl. no.2: 29-31 F '60. (MIRA 13:7)
(Flight training)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F.A., podpolkovnik

Holder of two Orders of Lenin. Vest.Vozd.Fl. no.4:22-26 Ap '60. (MIRA 13:8)

(Shadrin, Gennadii Alekseevich)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

SHIROKOV, N.M., general-mayor aviatsii, voyennyy letchik pervogo klassa, KUZNETSOV, V.A. polkovnik, voyennyy letchik pervogo klassa, POPOV, A.M., polkovnik; VAZHIN, F.A., podpolkovnik; NAZAROV, O.A., mayor, Prinimali uchastiye: MARKOV, S.I., podpolkovnik, dotsent, kand. voyennykh nauk; D'YACHENKO, Yu.T., podpolkovnik, kand. voyennykh nauk; D'YACHENKO, G.Kh., mayor zapasa.

Other command posts could also operate this way. Vest.Vozd.Fl. no.10:2-21 O '60. (MIRA 13:11)

(Aerial warfare)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, Fedor Afanas'yevich, podpolkovnik; MEDVEDEV, I.M., podpolkovnik gvardii, red.; MYASNIKOVA, T.F., tekhn. red.

[Tactical skill of fliers] Takticheskoe masterstvo letchikov. Moskova, Voen.izd-vo M-va oborony SSSR, 1961. 78 p. (MIRA 15:1)

(Airplanes, Military--Piloting)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

LOGINOV, V.S., general-mayor aviatsii, voyennyy letchik pervogo klassa;
VAZHIN, F.A., pdopolkovnik

On mobile targets. Vest.Vozd.Fl. no.8:50-54 Ag '61. (MIRA 14:8)
(Russia--Air force--Target practice)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F., podpolkovnik

Always ready! Vest. Vozd. Fl. no.11:36-38 N '61. (MIRA 15:2)
(Russia--Air force--Political activity)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, Fedor Afanas'yevich, podpolkovnik; SOLOV'YEV, N.I., red.; KUZ'MIN, I.F., tekhn.red.

[Ramming in the air] Vozdushnyi taran. Moskva, Voen.izd-vo M-va oborony SSSR, 1962. 93 p. (MIRA 15:5)
(World War, 1939-1945—Aerial operations)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F., polkovnik; TELEGIN, K., mayor

Reconnaissance plane above the sea. Av.i kosm. 45 no.4:54-58 Ap '63. (MIRA 16:3)
(Aeronautics, Military--Observations)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F., polkovnik

Prompted by life. Av.i kosm. 46 no.1:12-16 Ja '64. (MIRA 17:3)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

MIKOYAN, A., general-mayor aviatsii, voyennyy letchik pervogo klassa;
VAZHIN, F., polkovnik; ARGUNOV, O., podpolkovnik

In Major Zakharov's group. Av. i kosm. 46 no.4:37-49
Ap '64. (MIRA 17:3)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, F., polkovnik; VOLODARSKIY, R., mayor, voyennyy letchik pervogo klassa

Substantiate your decision. Av.i kosm. 46 no.9:31-34 S '63.
(MIRA 16:10)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VASHIN, F., polkovnik.

Commander of an outstanding flight formation is speaking. Av. i kosm. 47 no.6:24-30 Je '64. (MIRA 17:7)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHENINA, Zoya Pavlovna. Prinimal uchastiye SUSLOV, Nikolay Aleksandrovich; VOLKOVA, I.M., red.

[Phantastron generators; their theory, design, and calculation] Fantastronnye generatory; teoriia, proektirovanie, raschet. Moskva, Sovetskoe radio, 1965. 174 p.
(MIRA 18:12)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

KUZNETSOV, V., general-mayor aviatsii, voyennyy letchik pervogo klassa;
VAZHIN, F., polkovnik

Squadron of first-class pilots. Av. i kosm. 48 no.8:44-51 Ag '65.
(MIRA 18:7)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

YEVDOKIMOV, N.A.; SOLDATKIN, A.I., kand. tekhn. nauk; VAZHINSKIY, V.I.

Lengthening the service life of blast furnace air tuyeres.
Met. i gornorud. prom. no.4:10-11 Jl-Ag '65. (MIRA 18:10)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

AID P - 5459

Subject : USSR/Aeronautics - bombing

Card 1/1 Pub. 135 - 5/29

Author : Vazhnev, P. A., Major, mil. navigator class I

Title : Night bombing under unfavorable weather conditions

Periodical : Vest. vozd. flota, 2, 25-28, F 1957

Abstract : How to prepare for night bombing under unfavorable weather conditions, how to find and arrive to the target at a specified time, and how to carry out the aiming procedure is described in this article. The article merits attention.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHNICHIY, Yu.I., inzh.

Control of the acidity of electrolytes in electrolytic tanks.
Mashinostroenie no.1:85-87 Ja-F '65. (MIRA 18:4)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHNIK, Ganna [Vazhnik, Hanna], tkachikha

My happy life. Rab. i sial. 35 no.8:1 Ag '59. (MIRA 12:12)

1.Minskiy kamvol'nyy kombinat.
(Minsk--Worsted)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHIN, Fedor Afanas'yevich, podpolkovnik, voyennyy zhurnalist;
TOKAREV, M.F., polkovnik, red.; ANIKINA, R.F., tekhn.red.

[Aviation in combat] Aviatsiia v boiu. Moskva, Voen.izd-vo M-va obor.SSSR, 1959. 74 p. (MIRA 13:1)
(Russia--Air force) (Air warfare)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

TROITSKIY, Yu.V.; VAZHENIN, V.I.

Device for studying electron beams with axial symmetry. Izv. Sib. otd. AN SSSR no.8:17-20 '59. (MIRA 13:2)

1.Institut radiofiziki i elektroniki Sibirskogo otdeleniya AN SSSR.
(Electron beams)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

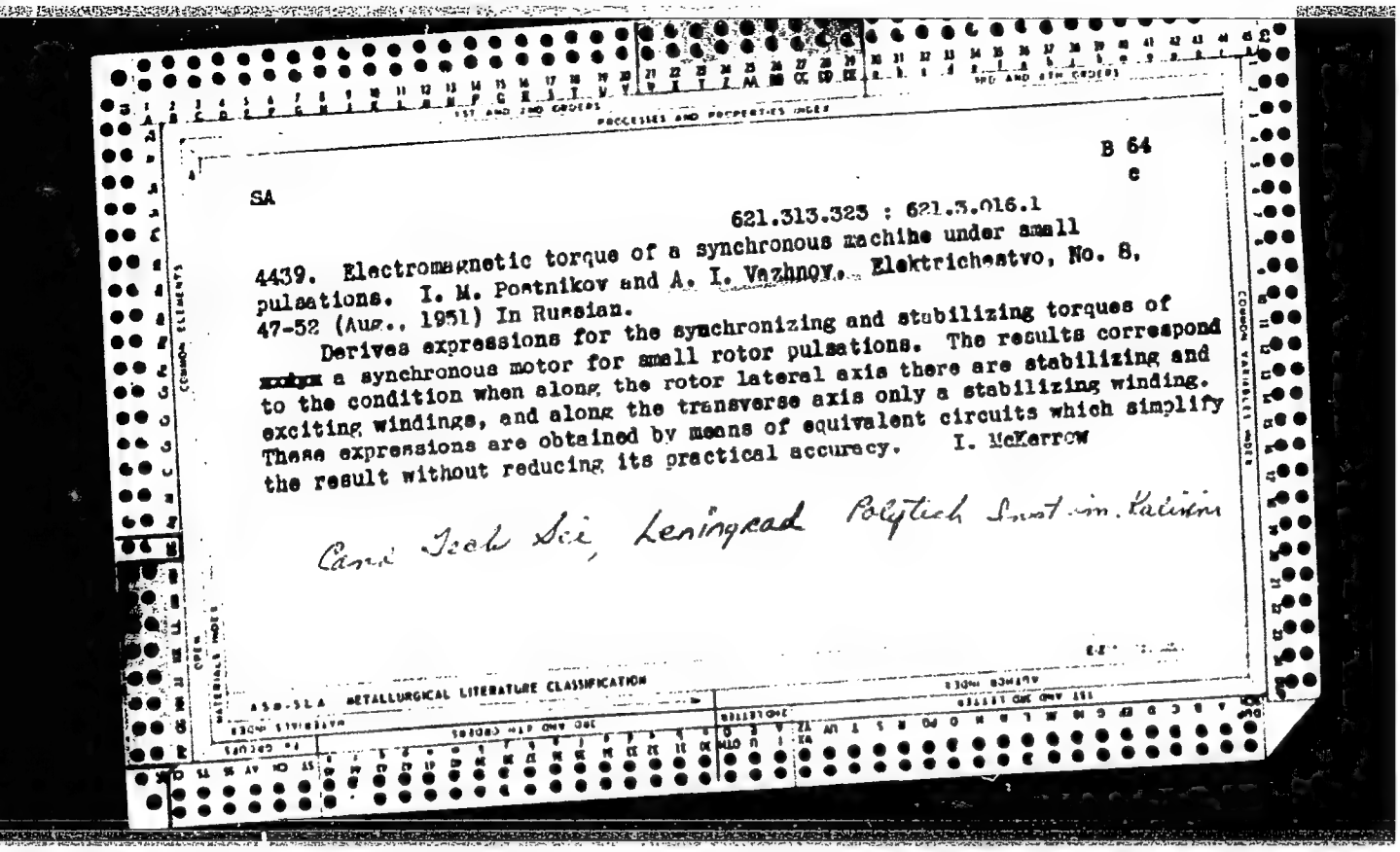
KISELEV, P.N., starshiy elektromekhanik; KROT, G.R., elektromekhanik; VAZHNIK, G.S., elektromekhanik; SUZDALEV, N.V., elektromekhanik

Automatic frequency signaling system on hump yards. Avtom., telem.i sviaz' 5 no.7:26-28 Jl '61. (MIRA 14:10)

1. Gomel'skaya distantsiya signalizatsii i svyazi Belorusskoy dorogi.
(Railroads--Hump yards) (Railroads--Signaling)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4



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621.313.323 : 621.3.016.1

4439. Electromagnetic torque of a synchronous machine under small pulsations. I. M. Postnikov and A. I. Vazhnov. Elektrichestvo, No. 8, 47-52 (Aug., 1951) In Russian.

Derives expressions for the synchronizing and stabilizing torques of a synchronous motor for small rotor pulsations. The results correspond to the condition when along the rotor lateral axis there are stabilizing and exciting windings, and along the transverse axis only a stabilizing winding. These expressions are obtained by means of equivalent circuits which simplify the result without reducing its practical accuracy. I. McKerrow

Cand Tech Sci, Leningrad Polytech Inst im. Kalinin

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHNOV, A. I.

PA 240T60

USSR/Electricity - DC Generators Nov 52
Modelling

"A Three-Phase Series Commutator as a Negative Resistance," Doc 'A. I. Vazhnov, Cand Tech Sci, and Engr E. S. Mkrtchyan, Leningrad Polytech Inst imeni Kalinin (LPI)

"Elektrichestvo" No 11, pp 16-22

The 3-phase series commutator generator is used as a negative resistance in conjunction with synchronous generator models in order to obtain in the models the low active resistances found in high-power generators. Discusses its operation under these conditions. Considerable experience in planning and operation of electrodynamic models has been acquired at LPI and Moscow Power Eng Inst imeni Molotov. Submitted 4 Jun 52.

240T60

240T60

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

"Rotor Movement of a Synchronous Generator During Sudden Short-circuiting," p. 152.

High Voltage Technique, Moscow, Gosenergoizdat, 1958, 664pp
(Series: Its Trudy, No. 125)

This collection of articles sums up the principal results of investigations and studies made by Prof. A. A. Gorev, Dr. Tech. Sci., and his staff in the field of high voltage phenomena and techniques at LPI (Leningrad Polytech Inst.). It was at this instutute that Prof. Gorev completed his higher scientific education and then taught and carried on his investigations in the field until his death in 1953. In 1956, by decree of Min of Higher Education, the High-Voltage Lab. at LPI was named after A. A Gorev.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHNOV, A. I.

KOSTENKO, M.P., akademik; ZAVALISHIN, D.A., prof.; SHCHEDRIN, N.N., doktor tekhn. nauk; SALITA, P.Z., inzh.; VAZHNOV, A.I., kand. tekhn. nauk, dots.; ROZOVSKIY, Yu.A., kand. tekhn. nauk; MARCHENKO, Ye.A., kand. tekhn. nauk.; POLYAK, G.I., inzh; VENIKOV, V.A., doktor tekhn. nauk, prof.

Dynamic models of power systems. Elektrichestvo no.2:78-85 F '58. (MIRA 11:2)

1. Nauchno-issledovatel'skiy institut postoyannogo toka (for Schedrin, Salita, Vazhnov, Rozovskiy, Marchenko, Polyak). 2. Chlen-korrespondent AN Uzbekskoy SSR (for Shchedrin). 3. Moskovskiy energeticheskiy institut (for Venikov).

(Electric networks)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

AUTHORS: 1)Vazhnov, A. I., Docent, Candidate of Technical Sciences, Tolvinskaya, Ye. V., Engineer (a woman), SOV/105-58-10-10/28
2)Gordon, I. A., Engineer,
3)Zavalishin, D. A., Professor, Doctor of Technical Sciences,
Glebov, I. A., Docent, Candidate of Technical Sciences

TITLE: Synchronous Condensers for Long-Distance Transmission Systems (Sinkhronnyye kompensatory dlya dal'nikh elektroperedach)

PERIODICAL: Elektrichestvo, 1958, Nr 10, pp 43 - 47 (USSR)

ABSTRACT: This is a study of problems of design of synchronous condensers connected with the elimination of self-excitation of such generators in various modes of operation. Inasmuch the investigation of two boundary cases of damper system design is of interest, that is to say, of a normal design and of a connected type of winding, this paper is limited to compensators with salient poles with only one type of rotor. The computations presented in this paper demonstrate that non-compensated supporting condensers, which are intended for continuous duty at rated power with lagging current can be built on

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

the basis of conventional machines with very high power (75 MVA). In order to be able to obtain a considerable output with leading current, the compensator must operate with negative excitation currents. 2) A supporting synchronous condenser which is compensated for capacity can be designed on the basis of normal condensers. 3) Compensated supporting condensers can be continuously operated ar rated power with lagging and with leading current. 4) In order to guarantee a forced excitation of non-compensated supporting synchronous condensers an increased ceiling voltage of excitation is required. In compensated condensers a similar behaviour is guaranteed by normal exciters. There are 4 figures, 2 tables, and 5 references, 4 of which are Soviet.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

Synchronous Condensers for Long-Distance Transmission Systems SOV/105-58-10-10/28

ASSOCIATION: 1)Leningradskiy politekhnicheskiy institut imeni Kalinina (Leningrad Polytechnical Institute imeni Kalinin)
2)Nauchno-issledovatel'skiy institut postoyannogo toka (Scientific Research Institute of Direct Current)
3)Institut elektromekhaniki Akademii nauk SSSR (Institute of Electromechanics, AS USSR)

SUBMITTED: May 4, 1958

Card 3/3

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHNOV, A.I.

Rotor motion of a synchronous generator caused by a sudden short circuit. Trudy LPI no.195:158-167 '58. (MIRA 11:10)
(Electric machinery, Synchronous) (Short circuits)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHNOV, A.I.; GORDON, I.A.

Designing model salient-pole generators. Izv. MIIPT no.4:180-195 '59. (MIRA 13:2)
(Electric generators--Models)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

16.6800

AUTHORS: Tarasov, V. S., Docent, Vazhnov, A. I., Docent, Rakitskiy, Yu. V., Engineer, Popov, V. V., Engineer, Semenova, L. N., Engineer

69944
S/105/60/000/04/002/024
B007/B008

TITLE: Method of Investigating Dynamic Stability on Analog Computers

PERIODICAL: Elektrichestvo, 1960, Nr 4, pp 7 - 12 (USSR)

TEXT: The description of characteristics for the investigation of transients in 2 synchronous machines (Fig 1) working parallel to a net of infinite output over punctiformly distributed resistors is the purpose of the paper under review. It is assumed that the influence of the effective resistance of the stator circuits, and the transients caused by these resistances can be neglected. Synchronous machines with non-salient poles, with 2 symmetrical windings on the d- and q-axis, with a nonsaturated magnetic circuit, and controllable excitation are investigated. A number of successive modes of operation of the power network must be investigated to solve the problems of dynamic stability on an analog computer. The characteristics of these problems are indicated here. Formulas (1) to (10) written down under the above mentioned assumptions show that the structure of these formulas remains about the same for various modes of operation. It is therefore sufficient to set up the differential equations only for one mode of operation before the disturbance. The transition to short

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

Method of Investigating Dynamic Stability on Analog Computers

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B007/B008

circuit and to the mode of operation after the disturbance is achieved by switching over, or switching off, respectively, the corresponding inlets and outlets of the circuit-scheme elements. Various time scales must be used in order to reproduce the various modes of operation with sufficient accuracy. A linear relation exists between the variables of the machine and the actual values when solving problems on computers. A nonlinear relation may also occur in a number of cases. In these cases it is not the proportionality factor of the variables of the machine and of the actual variables which forms the variable scale, but the proportionality factor of their differentials. The variable time scale is realized technically by connecting a relay group to the solution circuit. The contacts of these relays connect additional resistors to the inlets of the integrators, or cause a shunt of the relays. It is shown how to obtain sine-cosine functions for a wide range of argument variation. The characteristics for the solution of problems of dynamic stability with slight fading are investigated. It is shown that the smaller the fading in the power network to be simulated, the greater the error developing because of exterior and interior disturbances in the circuit scheme. The problem of selection of the multiplier type when solving the problems of dynamic stability is investigated. It is shown that a combination of electronic and electromechanic

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69944

Method of Investigating Dynamic Stability on Analog Computers

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B007/B008

multipliers must be used for these problems. The methods of checking the correctness of the solution of problems of dynamic stability are investigated. The most correct and most suitable checking of transients is the solution of the problem on various time scales. Problems of dynamic stability of a synchronous generator were successfully solved on the analog computer developed at the LPI im. Kalinina (Leningrad Polytechnic Institute imeni Kalinin) under the direction of Professor T. N. Sokolov with the aid of the method given here. There are 4 figures and 5 Soviet references.

4

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. Kalinina (Leningrad Polytechnic Institute imeni Kalinin)

SUBMITTED: September 19, 1959

Card 3/3

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4

VAZHNOV, A.I.

Calculation of the transient process of an induction motor with an impact load. Trudy LPI no.241:23-32 '64. (MIRA 18:4)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859210010-4"